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# SCIENCE

FRIDAY, JULY 22, 1887.

THE SESSION of the National Educational Association at Chicago last week was a notable occasion. It was estimated by a competent authority that sixteen thousand teachers were assembled in the Exposition building when the opening session was held. Coming as they did from all parts of the country, — several of the Southern States excepted, — they were representative of the American public school in all its grades and phases. They were assembled to listen to the discussion of important questions, to talk together informally of school matters, and to view the great exhibition of educational material that was prepared for them. Despite the fact that several of the prominent speakers were not able to be present, the discussions were well sustained and attentively followed. The majority of the teachers present took more interest in the meetings of the sections devoted to matters of special interest than in the general meetings. It was very satisfactory to notice the ground gained by the advocates of manual training during the past year. This was clearly evidenced by the approval accorded to all references to it, by the character of the address by the President of the Chicago Board of Education, and by the great interest displayed in the exhibits of the work done at Chicago, Toledo, Cook County Normal School, and elsewhere. The exhibition was very complete, and well worth going a long distance to see. The States of Illinois, Wisconsin, and Michigan were particularly well represented. One fact was thoroughly demonstrated by the convention; namely, that despite the excitement and enthusiasm attendant on a large assembly, the Association's annual meeting has grown so large as to be unwieldy. Very many cannot hear what is going on, and very many more are dissatisfied at being afforded no proper opportunity to participate in the proceedings, while a few others who have long ago said all that they had to say that was worth hearing, continued to read papers and lead the discussions. In consequence of these facts, as well as because many teachers are unable to afford the expense necessary to attend a national convention, the proposal has been made to divide the Association into several, say four or five, each of which shall have its annual meeting and elect a quota of representatives to a central body, which shall meet annually and be deliberative, instead of hortatory and polemic, as the Association's meeting now is. This seems to us a most excellent plan, and we trust it may be soon adopted. The new president of the Association is Superintendent Aaron Gove of Denver, Colorado.

THE ECONOMIC BENEFITS of the work performed by the U. S. Geological Survey are just beginning to be appreciated by railway men who are laying out new lines of railroad. The officials of the Survey are of the opinion that within the next ten years the centre of all the railroad-building in the country will be located in the Southern States. They base this opinion on the fact that the calls for maps of the southern mountain ranges is increasing very rapidly. The maps thus far prepared by the Geological Survey cover the eastern coast-line from the Maryland boundary to the Georgia coast, with the exception of a small section of Virginia. They are at present issued only to those directly interested in the topography of the Appalachian range, yet there have been issued already upwards of three thousand five hundred maps of the region. That is to say, about a hundred different sets. These maps have all been distributed to those directly interested in the building of new railroads. It is said that there are somewhere about twenty

different roads in course of construction between the coal-fields of the South and the seaboard or the Ohio River. One gentleman, who is interested in the construction of a road between Charleston, S.C., and the mouth of the Big Sandy on the Ohio, called at the office of the Survey a day or two ago and said that the maps which had been furnished to his company had saved the corporation at least ten thousand dollars in preliminary surveys. From all sections of the South, reports are constantly received of the enormous value of the maps furnished by the Survey to topographical and civil engineers. Besides the work which has been done in the Southern States, the survey has been extended well into many sections of the North and West. Massachusetts has been mapped on a scale of a square mile to the inch, through the joint work of the State and the general government. A field-party has just begun operations in south-eastern Iowa for the purpose of mapping that State on a similar scale. Illinois and Indiana will, in all probability, be the next States in which the surveys will be undertaken. There is a great difference in the cost of the work in the various States. In the South, where the country is broken by mountain ranges, the cost is about twelve dollars a square mile; while in the prairie States of the West, where the country is flat, the work can be performed at about five dollars a square mile. It is the ultimate intention of the bureau to prepare topographic maps of the entire country. Owing, however, to the necessary slowness of the operations, it will be many years before the entire scheme of operations is perfected. As fast as the field-operations in each case are perfected and verified, the original maps are sent to the engraver, and a few copies are made for immediate use. Eventually there will be prepared an atlas of each State. These atlases will be of enormous value, not only to railroad engineers but to all municipalities who have use for an accurate topographic map of the country surrounding them.

## AMERICAN PHILOLOGICAL ASSOCIATION.

THE nineteenth annual session of the American Philological Association was held in the Marsh-Billings Library of the University of Vermont, at Burlington, on July 12-14. In the absence of President Merriam, who is on his way to Athens, to take charge of the American School there for the ensuing year, the Vice-President, I. H. Hall of New York, occupied the chair. The attendance was not as large as usual, but this did not hinder the meeting from being an exceedingly interesting one, marked by the animated discussions which some of the papers aroused.

The reading of papers was begun, after the transaction of routine business, by Dr. C. K. Nelson of Brookeville, Md., who presented some interesting facts gleaned from a study of 'Murray's New English Dictionary,' Part iii. This part embraces the letter B from *batter* to *bozzom*, and contains 8,765 words. If we add to this about 3,000 words under B in Part ii., and estimate the remaining words at the same figure, we have, for entire B, 14,765 words, or more than twice the number given by 'Webster's Unabridged,' which has only 6,750 words. Of the 8,765 words in Part iii., 5,323 are main words, 1,873 compound, and 1,569 subordinate words; and of these main words, again, 3,802 are in current use, while 1,379 are obsolete. A feature of this letter is the small proportion of Latin and Greek words found under it, aggregating not quite twenty-five per cent. In summing up, Dr. Nelson said that "this part of the great English Thesaurus impresses philologists more and more with the fact that the creative period of language is by no means arrested. Sanscrit, and Latin, and Greek have crystallized linguistic forms, which afford splendid specimens of immutable structure, but it is in the living language, where words are